A new polymorphic probe on chromosome 3p: λ LIB31-57' (D3S213)

F.Latif, G.M.Glenn, L.N.Daniel, H.Brauch, J.Delisio¹, K.Hampsch¹, M.L.Orcutt, B.Zbar and M.I.Lerman*

Laboratory of Immunobiology, National Cancer Institute-Frederick Cancer Research Facility, Frederick, MD 21701 and ¹Program Resources Inc., Frederick Cancer Research Facility, Frederick, MD 21701, USA

Source/Description: λ LIB31-57' is a 6.6 kb EcoRI fragment isolated from a Charon 21A human chromosome 3 library (1).

Polymorphism: BglII digestion of genomic DNA and hybridization with the probe detects a two allele polymorphism: 6.8 kb (B1) and 6.1 kb (B2). A 2.6 kb constant band was present.

Frequency: Estimated from 30 unrelated Caucasians.

B1 : 0.65

B2 : 0.35

Not Polymorphic For: BamHI, DraI, EcoRI, HindIII, HinfI, MspI, PvuII, RsaI and TaqI.

Chromosomal Localization: Using a somatic cell hybrid panel (2) which was based on linkage groups anchored to physically localized markers, the probe was assigned to the short arm of chromosome 3 between 3p24 and 3p25.

Mendelian Inheritance: Mendelian inheritance has been demonstrated in three two-generation von Hippel-Lindau disease (vHL) families.

Probe Availability: Available for collaboration.

Other Comments: The probe sequences are highly conserved between human and rodent species.

References: 1. American Type Culture Collection No. 57748, National Lab ID Code LA03NS02. 2. Brauch, H. *et al.*, A somatic cell hybrid panel for physical assignment of 3p probes. Abstract, HGM10. (1989) *Cytogenet. Cell Genet.* **51**(1-4), 968.

*To whom correspondence should be addressed at Laboratory of Immunobiology, Frederick Cancer Research Facility, NCI-NIH, Ft. Detrick, Bldg 560, Rm 12-71, Frederick, MD 21701, USA

A new polymorphic probe on chromosome 3p: λ LIB32-90' (D3S216)

L.N.Daniel, G.M.Glenn, F.Latif, S.Hosoe, H.Brauch, J.Delisio¹, K.Hampsch¹, M.L.Orcutt, B.Zbar and M.I.Lerman*

Laboratory of Immunobiology, National Cancer Institute-Frederick Cancer Research Facility, Frederick, MD 21701 and ¹Program Resources Inc., Frederick Cancer Research Facility, Frederick, MD 21701, USA

Source/Description: λ LIB32-90' is a 3.0 kb EcoRI fragment isolated from a Charon 21A human chromosome 3 library (1).

Polymorphism: Five enzymes (DraI, EcoRI, MspI, PvuII and TaqI) detect the same two allele polymorphism. Hybridization of this probe to restriction enzyme digested DNA detects the following bands: DraI (D1: 1.4 kb, D2: 0.9 kb); EcoRI (E1: 3.5 kb, E2: 3.0 kb); MspI (M1: 6.6 kb, M2: 5.6 + 1.0 kb) with a constant band at 2.3 kb; PvuII (P1: 6.6 kb, P2: 6.1 kb); TaqI (T1: 8.2 kb, T2: 6.2 + 2.0 kb). Restriction patterns of individuals tested with multiple enzymes suggest that D1, E1 and P1 alleles correspond to M2 and T2 alleles. The data are consistent with an insertion/deletion type polymorphism in which the alternative allele forms differ by insertion (deletion) of a 500 bp segment which contains MspI and TaqI restriction sites.

Frequency: Estimated from 44 unrelated Caucasians.

D1: 0.70 E1: 0.70 M1: 0.30 P1: 0.70 T1: 0.30

D2: 0.30 E2: 0.30 M2: 0.70 P2: 0.30 T2: 0.7

Not Polymorphic For: BamHI, BglII, HindIII and RsaI.

Chromosomal Localization: Using a somatic cell hybrid panel (2) which was based on linkage groups anchored to physically localized markers, the probe was assigned to the short arm of chromosome 3 between 3p24 and 3p25.

Mendelian Inheritance: Mendelian inheritance for EcoRI and TaqI polymorphisms was demonstrated in four three-generation von Hippel-Lindau disease families.

Probe Availability: Available for collaboration.

References: 1. American Type Culture Collection No. 57748, National Lab ID code LA03NS02. 2. Brauch, H. *et al.* A somatic cell hybrid panel for physical assignment of 3p probes. Abstract, HGM10. (1989) *Cytogenet. Cell Genet.* **51**(1-4), 968.

*To whom correspondence should be addressed at Laboratory of Immunobiology, Frederick Cancer Research Facility, NCI-NIH, Ft. Detrick, Bldg 560, Rm 12-71, Frederick, MD 21701, USA